

Appendix E: Agency Publications

SANDAG Policy No. 031, Accommodating Bicyclists and Pedestrians - Section 4(E)(3)

All new projects, or major reconstruction projects, funded by revenues provided under this Ordinance shall accommodate travel by pedestrians and cyclists, except where pedestrians and cyclists are prohibited by law from using a given facility or where the cost of including bikeways and walkways would be excessively disproportionate to the need or probable use. Such facilities for pedestrian and bicycle use shall be designed to the best currently available standards and guidelines. This amendment to the TransNet ordinance utilizes existing bicycle and pedestrian design standards from the Caltrans *Highway Design Manual, Chapter 1000* regarding bicycle facilities and the American Association of State Highway Transportation Officials (AASHTO) *Guide for the Planning, Design, and Operation of Pedestrian Facilities*. These documents provide reasonable and widely recognized designs guidelines proposed as the standard under this amendment.

Assembly Concurrent Resolution Number 211

On May 16, 2002 (the official California Bike-to-Work Day), Assembly Member Joe Nation (D-San Rafael) introduced Assembly Concurrent Resolution Number 211, relative to integrating walking and biking into transportation infrastructure. This advisory measure encourages all cities and counties to implement the policies of the California Department of Transportation Deputy Directive 64 and the United States Department of Transportation's design guidance document on integrating bicycling and walking when building their transportation infrastructure. The text of the resolution is as follows:

WHEREAS, Bicycling and walking contribute to cleaner air; and

WHEREAS, Bicycling and walking provide affordable and healthy transportation options for many of the 10 million Californians who do not possess a driver's license; and

WHEREAS, The State Department of Health Services has declared that more than 40,000 Californians annually die from causes related to physical inactivity; and

WHEREAS, The United States Centers for Disease Control has determined that changes in the community environment to promote physical activity may offer the most practical approach to prevent obesity or reduce its co-morbidities. Automobile trips that can be safely replaced by walking or bicycling offer the first target for increased physical activity in communities; and

WHEREAS, Bicycling and walking contribute to safeguarding our coast from offshore oil drilling and enhance California's energy independence and national security by reducing our reliance upon imported oil; and

WHEREAS, Designing roads for safe and efficient travel by bicyclists and pedestrians saves lives; and

WHEREAS, Bicyclists and pedestrians pay sales taxes which provide for the majority of local transportation spending; and

WHEREAS, Local demand for funding from the Bicycle Transportation Account, the Safe Routes to School, and the Transportation Enhancement Activity Programs far exceeds available moneys; and

WHEREAS, The best use of limited financial resources is to include bicycle and pedestrian elements into roadway projects where feasible; and

WHEREAS, Bicycling and walking reduce traffic congestion in California; and

WHEREAS, In February 2000, the United States Department of Transportation issued a design guidance statement titled, "Accommodating Bicycle and Pedestrian Travel: A Recommended Approach-A United States Department of Transportation Policy Statement on Integrating Bicycling and Walking into Transportation Infrastructure;" and

WHEREAS, In March 2001, the California Department of Transportation issued Deputy Directive 64 titled "Accommodating Non-Motorized Travel" which states that "The Department fully considers the needs of non-motorized travelers (including pedestrians, bicyclists and persons with disabilities) in all programming, planning maintenance, construction, operations, and project development activities and products. This includes incorporation of the best available standards in all of the Department's practices. The Department adopts the best practices concepts in the US DOT Policy Statement on Integrating Bicycling And Walking into Transportation Infrastructure;" now, therefore, be it

RESOLVED by the Assembly of the State of California, the Senate thereof concurring, That in order to improve the ability of all Californians who choose to walk or bicycle to do so safely and efficiently, the Legislature of the State of California hereby encourages all cities and counties to implement the policies of the California Department of Transportation Deputy Directive 64 and the United States Department of Transportation's design guidance document on integrating bicycling and walking when building their transportation infrastructure.

California Department of Transportation Deputy Directive 64: Accommodating Non-Motorized Travel Policy

The Department fully considers the needs of non-motorized travelers (including pedestrian cyclists and persons with disabilities) in all programming, planning, maintenance, construction, operations and project development activities and products. This includes incorporation of the best available standards in all of the Department's practices. The Department adopts the best practice concepts in the U.S. DOT Policy Statement on "Integrating Bicycling and Walking into Transportation Infrastructure."

Definition/Background

The planning and project development process seeks to provide the people of California with a degree of mobility in balance with other values. They must ensure that economic, social and environmental effects are fully considered along with technical issues, so that the best interest of the public is served. This includes all users of California's facilities and roadways.

Attention must be given to many issues including, but not limited to, the following:

- Safe and efficient transportation for all users of the transportation system
- Provision of alternatives for non-motorized travel
- Support of the Americans With Disabilities Act (ADA)
- Attainment of community goals and objectives
- Transportation needs of low-mobility, disadvantaged groups
- Support of the state's economic development
- Elimination or minimization of adverse effects on the environment, natural resources, public services, aesthetic features and the community
- Realistic financial estimates
- Cost-effectiveness

Individual projects are selected for construction on the basis of overall multimodal system benefits, as well as community goals, plans and values. Decisions place emphasis on making different transportation modes work together safely and effectively. Implicit in these objectives is the need to accommodate non-motorized travelers as an important consideration in improving the transportation system.

Responsibilities

Deputy Director, Planning and Modal Programs:

- Ensures that the needs of non-motorized travelers are incorporated into the program element of Transportation Planning and the modal elements of the statewide strategy for mobility.
- Ensures that liaison exists with non-motorized advocates to incorporate non-motorized needs into all program areas including project and system planning.
- Ensures that the needs of the non-motorized travelers are incorporated in personal movement strategies.

Deputy Director, Project Delivery:

- Ensures that projects incorporate best practices for non-motorized travel in the design and construction of capital projects.

Deputy Director, Maintenance and Operations:

- Ensures that the transportation system is maintained and operated in a safe and efficient manner with the recognition that non-motorized travel is a vital element of the transportation system.
- Ensures that the needs of non-motorized travelers are met in maintenance work zones.

District Directors:

- Ensure that best practices for non-motorized travel are included in all district projects and project planning.
- Ensure that best practices for non-motorized travel are implemented in maintenance and travel operations practices.

Chief, Division of Design

- Ensures that project delivery procedures and design guidance include the needs of non-motorized travelers as a regular part of doing business.
- Ensures that all project delivery staff is trained and consider the needs of the non-motorized traveler while developing and designing transportation projects.

Chief, Division of Planning:

- Ensures incorporation of non-motorized travel elements in transportation plans, programs and studies prepared by Transportation Planning.
- Ensures planning staff understand and are trained in the principles and design guidelines, non-motorized funding sources and the planning elements of non-motorized transportation.
- Coordinates Caltrans projects with non-motorized interest groups.
- Ensures incorporation of non-motorized travel elements in Corridor Studies prepared by Transportation Planning.

Chief, Division of Environmental Analysis:

- Ensures that non-motorized travel groups potentially affected by Caltrans projects are identified and have the opportunity to be involved in the project development process.
- Advocates effectively for all reasonable project-specific best practices that support or promote non-motorized travel.

Chief, Division of Maintenance:

- Ensures State-owned facilities are maintained consistent with the needs of motorized and non-motorized travelers.
- Provides guidance and training to those maintaining roadways to be aware of and sensitive to the needs of non-motorized travel.

Chief, Division of Traffic Operations:

- Ensures that the transportation system is operated in accordance with the needs of all travelers including non-motorized travel.
- Provides training and guidance on the operation of the transportation facility consistent with providing mobility for all users.
- Recommends safety measures in consideration of non-motorized travel on California's transportation system.

Chief, Division of Local Assistance:

- Ensures that Local Assistance staff, local agencies and interest groups are familiar with funding programs available for non-motorized travelers.
- Ensures that program coordinators responsible for non-motorized travel modes are familiar with non-motorized issues and advocate on behalf of non-motorized travelers.

Applicability

All Caltrans employees who are involved in the planning, design, construction, maintenance and operations of the transportation system.

Complete Streets

A "complete street" is one that enables a safe and viable transportation access to all types of roadway users. They allow bicycles, pedestrians, seniors, transit riders and individuals with disabilities to move through a roadway. Complete streets addresses the safety and mobility needs of non-vehicular users while balancing efficiency of vehicular traffic.

Roadway segments differ, so complete street design treatments will be unique as well. Adjacent land uses, transportation infrastructure and demographics play a key role in the design of a complete street. Typical amenities can include bike lanes, paved and hard surface paths, wide sidewalks, parkway strip, special bus lanes, pedestrian curb extensions, accessible pedestrian and bicycle signals and median islands. Complete streets in rural areas will look different than those in urban core areas, but can operate in the same way with a balance of convenience and safety designs.

Complete streets offer many benefits for the surrounding community:

- Wide, attractive sidewalks and well defined bike routes encourage healthy and active lifestyles among residents of all ages.
- They give children opportunities to reach nearby destinations in a safe and supportive environment.
- Transportation options allow everyone, particularly people with disabilities and older adults, to be mobile and stay connected to the community.
- Multi-modal transportation networks help communities provide alternatives to sitting in traffic.
- Integration of land use and transportation creates an attractive blend of buildings, houses, offices, shops and street designs.
- Improved pedestrian facilities including sidewalks, raised medians, convenient bus stop placement, traffic calming measures and treatments for travelers with disabilities can increase the convenience and safety of all users.

- Preserving resources through livable and walkable communities can also help reduce carbon emissions and are an important part of a climate change strategy.
- Reductions in transportation costs and travel time, as well as lower public investment in infrastructure, can allow for increased spending in other areas and can result in economic revitalization.
- Integrating sidewalks, bike lanes, transit amenities and safe crossings into the initial design of a project can reduce the need for costly retrofits later.

Deputy Directive 64 - Revision #1 - Complete Streets: Integrating the Transportation System

This revision to Deputy Directive 64 was signed on October 2, 2008. It reiterates that Caltrans is to provide for the needs of travelers of all ages and abilities in all planning, programming, design, construction, operations and maintenance activities and products on the State Highway System (SHS). Caltrans views all transportation improvements (new and retrofit) as opportunities to improve safety, access and mobility for all travelers and recognizes bicycle, pedestrian and transit modes as integral elements of the transportation system.

The Department develops integrated multimodal projects in balance with community goals, plans, and values. Addressing the safety and mobility needs of cyclists, pedestrians, and transit users in all projects, regardless of funding, is implicit in these objectives. Bicycle, pedestrian, and transit travel is facilitated by creating “complete streets” beginning early in system planning and continuing through project delivery, maintenance and operations. Developing a network of complete streets requires collaboration among all Department functional units and stakeholders.

Deputy Directive 64-R1 further defines what complete streets are and creates an Implementation Action Plan Overview. The Implementation Action Plan projects are organized into seven categories: 1) Highest Focus Areas; 2) Guidance, Manuals, and Handbooks; 3) Policy and Plans; 4) Funding and Project Selection; 5) Raise Awareness; 6) Training; and 7) Research.

A Complete Streets Steering Committee will oversee implementation of the projects, as well as track and report on action items, deliverables and policies. DD-64 designates roles and responsibilities for implementing Complete Streets.

Complete Streets Act - AB 1358

The Complete Streets Act of 2007 will ensure that the transportation plans of California communities meet the needs of all users of the roadway including pedestrians, cyclists, users of public transit, motorists, children, the elderly, and the disabled.

AB 1358 requires the legislative body of a city or county, upon revision of the circulation element of their general plan, to identify how the jurisdiction will provide for the routine accommodation of all users of the roadway including motorists, pedestrians, cyclists, individuals with disabilities, seniors, and users of public transportation.

The bill also directs the Office of Planning and Research to amend guidelines for the development of general plan circulation elements so that the building and operation of local transportation facilities safely and conveniently accommodate everyone, regardless of their mode of travel.

Design Guidance Accommodating Bicycle and Pedestrian Travel: A Recommended Approach

A USDOT Policy Statement on Integrating Bicycling and Walking into Transportation Infrastructure

Purpose

Accommodating Bicycle and Pedestrian Travel: A Recommended Approach is a policy statement adopted by the United States Department of Transportation (USDOT). USDOT hopes that public agencies, professional associations, advocacy groups, and others adopt this approach as a way of committing themselves to integrating bicycling and walking into the transportation mainstream.

The Design Guidance incorporates three key principles:

- a) a policy statement that bicycling and walking facilities will be incorporated into all transportation projects unless exceptional circumstances exist;
- b) an approach to achieving this policy that has already worked in State and local agencies; and
- c) a series of action items that a public agency, professional association, or advocacy group can take to achieve the overriding goal of improving conditions for bicycling and walking.

The Policy Statement was drafted by the U.S. Department of Transportation in response to Section 1202 (b) of the Transportation Equity Act for the 21st Century (TEA-21) with the input and assistance of public agencies, professional associations and advocacy groups.

Introduction

Bicycling and walking issues have grown in significance. Public agencies and public interest groups alike are striving to define the most appropriate way in which to accommodate the two modes within the overall transportation system so that those who walk or ride bicycles can safely, conveniently, and comfortably access every destination within a community.

Public support and advocacy for improved conditions for bicycling and walking has created a widespread acceptance that more should be done to enhance the safety, comfort, and convenience of the non-motorized traveler. Public opinion surveys have demonstrated strong support for increased planning, funding and implementation of shared use paths, sidewalks and on-street facilities.

At the same time, public agencies have become considerably better equipped to respond to this demand. Research and practical experience in designing facilities for cyclists and pedestrians has generated numerous national, state and local design manuals and resources. An increasing number of professional planners and engineers are familiar with this material and are applying this knowledge in towns and cities across the country.

The Americans with Disabilities Act, building on an earlier law requiring curb ramps in new, altered, and existing sidewalks, added impetus to improving conditions for sidewalk users. People with disabilities rely on the pedestrian and transit infrastructure, and the links between them, for access and mobility.

Congress and many State legislatures have made it considerably easier in recent years to fund non-motorized projects and programs (for example, the Intermodal Surface Transportation Efficiency Act and the Transportation Equity Act for the 21st Century), and a number of laws and regulations now mandate certain planning activities and design standards to guarantee the inclusion of cyclists and pedestrians.

Despite these many advances, injury and fatality numbers for cyclists and pedestrians remain stubbornly high, levels of bicycling and walking remain frustratingly low, and most communities continue to grow in ways that make travel by means other than the private automobile quite challenging. Failure to provide an accessible pedestrian network for people with disabilities often requires the provision of costly paratransit service. Ongoing investment in the nation's transportation infrastructure is still more likely to overlook rather than integrate cyclists and pedestrians.

In response to demands from user groups that every transportation project include a bicycle and pedestrian element, Congress asked the Federal Highway Administration (FHWA) to study various approaches to accommodating the two modes. The Transportation Equity Act for the 21st Century (TEA-21) instructs the Secretary to work with professional groups such as AASHTO, ITE, and other interested parties to recommend policies and standards that might achieve the overall goal of fully integrating cyclists and pedestrians into the transportation system.

TEA-21 also says that, "Bicycle transportation facilities and pedestrian walkways shall be considered, where appropriate, in conjunction with all new construction and reconstruction of transportation projects, except where bicycle and pedestrian use are not permitted" (Section 1202).

Sec. 1202. Bicycle Transportation And Pedestrian Walkways.

(b) Design Guidance.

- (1) In general - In implementing section 217(g) of title 23, United States Code, the Secretary, in cooperation with the American Association of State Highway and Transportation Officials, the Institute of Transportation Engineers, and other interested organizations, shall develop guidance on the various approaches to accommodating bicycles and pedestrian travel.
- (2) Issues to be addressed - The guidance shall address issues such as the level and nature of the demand, volume, and speed of motor vehicle traffic, safety, terrain, cost, and sight distance.
- (3) Recommendations - The guidance shall include recommendations on amending and updating the policies of the American Association of State Highway and Transportation Officials relating to highway and street design standards to accommodate cyclists and pedestrians.
- (4) Time period for development - The guidance shall be developed within 18 months after the date of enactment of this Act.

In August 1998, FHWA convened a Task Force comprising representatives from FHWA, AASHTO, ITE, bicycle and pedestrian user groups, State and local agencies, the U.S. Access Board and representatives of disability organizations to seek advice on how to proceed with developing this guidance. The Task Force reviewed existing and proposed information on the planning and technical design of facilities for cyclists and pedestrians and concluded that these made creation of another design manual unnecessary.

However, the area where information and guidance was most lacking was in determining when to include designated or special facilities for cyclists and pedestrians in transportation projects. There was also uncertainty about the type of facility to provide, and the design elements needed to ensure accessibility.

For example, when a new suburban arterial road is planned and designed, what facilities for cyclists and pedestrians should be provided? The task force felt that once the decision to provide a particular facility was made, the specific information on designing that facility is generally available. However, the decision on whether to provide sidewalks on neither, one or both sides of the road, or a shoulder, striped bike lane, wide outside lane or separate trail for cyclists is usually made with little guidance or help.

After a second meeting with the Task Force in January 1999, FHWA agreed to develop a *Policy Statement on Accommodating Bicyclists and Pedestrians in Transportation Projects* to guide state and local agencies in answering these questions. Task Force members recommended against trying to create specific warrants for different facilities (warrants leave little room for engineering judgment and have often been used to avoid providing facilities for bicycling and walking). Instead, the purpose of the Policy Statement is to provide a recommended approach to the accommodation of cyclists and pedestrians that can be adopted by State and local agencies (as well as professional societies and associations, advocacy groups, and Federal agencies) as a commitment to developing a safe, convenient, accessible transportation infrastructure attractive to both motorized and non-motorized users alike. The Policy Statement has four elements:

- a) An acknowledgment of the issues associated with balancing the competing interests of motorized and non-motorized users;
- b) A recommended policy approach to accommodating cyclists and pedestrians (including people with disabilities) that can be adopted by an agency or organizations as a statement of policy to be implemented or a target to be reached in the future;
- c) A list of recommended actions that can be taken to implement the solutions and approaches described above; and
- d) Further information and resources on the planning, design, operation, and maintenance of facilities for cyclists and pedestrians.

The Challenge: Balancing Competing Interests

For most of the second half of the 20th Century, the transportation, traffic engineering and highway professions in the United States were synonymous. They shared a singular purpose: building a transportation system that promoted the safety, convenience and comfort of motor vehicle operation. The post-war boom in car and home ownership, the growth of suburban America, the challenge of completing the Interstate System, and the continued availability of cheap gasoline all fueled the development of a transportation infrastructure focused almost exclusively on the private vehicle and commercial truck.

Initially, there were few constraints on the traffic engineer and highway designer. Starting at the centerline, highways were developed according to the number of motor vehicle travel lanes needed well into the future, as well as providing space for breakdowns. Beyond that, facilities for cyclists and pedestrians, environmental mitigation, accessibility, community preservation, and aesthetics were often an afterthought, or rejected as unnecessary, costly and regressive. Many states passed laws preventing the use of state gas tax funds on anything other than motor vehicle lanes and facilities. The resulting highway environment discouraged bicycling and walking and has made the two modes more dangerous. Further, the ability of pedestrians with disabilities to travel independently and safely has been compromised, especially for those with vision impairments.

Over time, the task of designing and building highways has become more complex and challenging. Traffic engineers now have to integrate accessibility, utilities, landscaping, community preservation, wetland mitigation, historic preservation and a host of other concerns into their plans and designs. Yet they often have less space and resources within which to operate while traffic volumes continue to grow.

The additional “burden” of having to find space for pedestrians and cyclists was rejected as impossible in many communities because of space and funding constraints and a perceived lack of demand. There was also anxiety about encouraging an activity that many felt to be dangerous and fraught with liability issues. Designers continued to design from the centerline out and often simply ran out of space before bike lanes, paved shoulders, sidewalks and other “amenities” could be included.

By contrast, bicycle and pedestrian user groups argued the roadway designer should design highways from the right-of-way limits in, rather than the centerline out. They advocated beginning the design of a highway with the sidewalk and/or trail, including a buffer before the paved shoulder or bike lane, and then allocating the remaining space for motor vehicles. Through this approach, walking and bicycling are positively encouraged, made safer, and included as a critical element in every transportation project, rather than as an afterthought in a handful of unconnected and arbitrary locations within a community.

Retrofitting the built environment often provides even more challenges than building new roads and communities. Space is at a premium and there is a perception that providing better conditions for cyclists and pedestrians will necessarily take away space or convenience from motor vehicles.

During the 1990s, Congress spearheaded a movement towards a transportation system that favors people and goods over motor vehicles with passage of the Intermodal Surface Transportation Efficiency Act (1991) and the Transportation Equity Act for the 21st Century (1998). The call for more walkable, livable, and accessible communities has seen bicycling and walking emerge as an “indicator species” for the health and well-being of a community. People want to live and work in places where they can safely and conveniently walk and/or bicycle and not always have to deal with worsening traffic congestion, road rage and the fight for a parking space. Vice President Gore launched a Livability Initiative in 1999 with the ironic statement that “a gallon of gas can be used up just driving to get a gallon of milk.”

The challenge for transportation planners, highway engineers and bicycle and pedestrian user groups, therefore, is to balance their competing interests in a limited amount of right-of-way, and to develop a transportation infrastructure that provides access for all, a real choice of modes, and safety in equal measure for each mode of travel.

This task is made more challenging by the widely divergent character of our nation’s highways and byways. Traffic speeds and volumes, topography, land use, the mix of road users and many other factors mean that a four-lane highway in rural North Carolina cannot be designed in the same way as a four-lane highway in New York City, a dirt road in Utah or an interstate highway in southern California. In addition, many different agencies are responsible for the development, management and operation of the transportation system.

In a memorandum transmitting Program Guidance on bicycle and pedestrian issues to FHWA Division Offices, the Federal Highway Administrator wrote, “We expect every transportation agency to make accommodation for bicycling and walking a routine part of their planning, design, construction, operations and maintenance activities.” The Program Guidance itself makes a number of clear statements of intent:

- Congress clearly intends for cyclists and pedestrians to have safe, convenient access to the transportation system and sees every transportation improvement as an opportunity to enhance the safety and convenience of the two modes.
- “Due consideration” of bicycle and pedestrian needs should include, at a minimum, a presumption that cyclists and pedestrians will be accommodated in the design of new and improved transportation facilities.
- To varying extents, cyclists and pedestrians will be present on all highways and transportation facilities where they are permitted and it is clearly the intent of TEA-21 that all new and improved transportation facilities be planned, designed and constructed with this fact in mind.
- The decision not to accommodate cyclists and pedestrians] should be the exception rather than the rule. There must be exceptional circumstances for denying bicycle and pedestrian access, either by prohibition or by designing highways that are incompatible with safe, convenient walking and bicycling.

The Program Guidance defers a suggested definition of what constitutes “exceptional circumstances” until this Policy Statement is completed. However, it does offer interim guidance that included controlled access highways and projects where the cost of accommodating cyclists and pedestrians is high in relation to the overall project costs and likely level of use by non-motorized travelers.

Providing access for people with disabilities is a civil rights mandate not subject to limitation by project costs, levels of use, or “exceptional circumstances.” While the Americans with Disabilities Act does not require pedestrian facilities in the absence of a pedestrian route, it does require that pedestrian facilities, when newly constructed or altered, be accessible.

Policy Statement

1. Bicycle and pedestrian ways shall be established in new construction and reconstruction projects in all urbanized areas unless one or more of three conditions are met:

- Cyclists and pedestrians are prohibited by law from using the roadway. In this instance, a greater effort may be necessary to accommodate cyclists and pedestrians elsewhere within the right-of-way or within the same transportation corridor.
- The cost of establishing bikeways or walkways would be excessively disproportionate to the need or probable use. Excessively disproportionate is defined as exceeding twenty percent of the cost of the larger transportation project.
- Where scarcity of population or other factors indicate an absence of need. For example, the Portland Pedestrian Guide requires “all construction of new public streets” to include sidewalk improvements on both sides, unless the street is a cul-de-sac with four or fewer dwellings or the street has severe topographic or natural resource constraints.

2. In rural areas, paved shoulders should be included in all new construction and reconstruction projects on roadways used by more than 1,000 vehicles per day, as is currently the case in Wisconsin. Paved shoulders have safety and operational advantages for all road users in addition to providing a place for cyclists and pedestrians to operate.

Rumble strips are not recommended where shoulders are used by cyclists unless there is a minimum clear path of four feet in which a bicycle may safely operate.

3. Sidewalks, shared use paths, street crossings (including over- and undercrossings), pedestrian signals, signs, street furniture, transit stops and facilities, and all connecting pathways shall be designed, constructed, operated and maintained so that all pedestrians, including people with disabilities, can travel safely and independently.

4. The design and development of the transportation infrastructure shall improve conditions for bicycling and walking through the following additional steps:

- Planning projects for the long-term - Transportation facilities are long-term investments that remain in place for many years. The design and construction of new facilities that meet the criteria in item 1) above should anticipate likely future demand for bicycling and walking facilities and not preclude the provision of future improvements. For example, a bridge likely to remain in place for 50 years might be built with sufficient width for safe bicycle and pedestrian use in anticipation that facilities will be available at either end of the bridge, even if not currently the case.
- Addressing the need for cyclists and pedestrians to cross corridors, as well as travel along them - Even where cyclists and pedestrians may not commonly use a particular travel corridor being improved or constructed, they will likely need to be able to cross that corridor safely and conveniently. Therefore, the design of intersections and interchanges shall accommodate cyclists and pedestrians in a safe, accessible and convenient manner.
- Getting exceptions approved at a senior level - Exceptions for the non-inclusion of bikeways and walkways shall be approved by a senior manager and be documented with supporting data that indicates the basis for the decision.
- Designing facilities to the best currently available standards and guidelines - The design of facilities for cyclists and pedestrians should follow commonly used design guidelines and standards, such as the *AASHTO Guide for the Development of Bicycle Facilities*, *AASHTO's A Policy on Geometric Design of Highways and Streets*, and the ITE Recommended Practice *Design and Safety of Pedestrian Facilities*.

Policy Approach

“Rewrite the Manuals” Approach

Manuals commonly used by highway designers covering roadway geometrics, roadside safety and bridges should incorporate design information that integrates safe and convenient facilities for cyclists and pedestrians, including people with disabilities, into all new highway construction and reconstruction projects.

In addition to incorporating detailed design information, such as the installation of safe and accessible crossing facilities for pedestrians, or safe and convenient intersections for cyclists, these manuals should also be amended to provide flexibility to the highway designer to develop facilities in keeping with transportation needs, accessibility, community values and aesthetics. For example, the *Portland Pedestrian Design Guide* (1998) applies to every project designed and built in the city, but the guide also notes that:

“Site conditions and circumstances often make applying a specific solution difficult. The Pedestrian Design Guide should reduce the need for ad hoc decision by providing a published set of guidelines that are applicable to most situations. Throughout the guidelines, however, care has been taken to provide flexibility to the designer so she or he can tailor the standards to unique circumstances. Even when the specific guideline cannot be met, the designer should attempt to find the solution that best meets the pedestrian design principles described.”

In the interim, these manuals may be supplemented by stand-alone bicycle and pedestrian facility manuals that provide detailed design information addressing on-street bicycle facilities, fully accessible sidewalks, crosswalks, shared use paths and other improvements.

Examples: Florida and New Jersey DOTs have integrated bicycle and pedestrian facility design information into their standard highway design manuals. Many States and localities have developed their own bicycle and pedestrian facility design manuals, some of which are listed in the final section of this document.

Applying Engineering Judgment to Roadway Design

In rewriting manuals and developing standards for the accommodation of cyclists and pedestrians, there is a temptation to adopt “typical sections” that are applied to roadways without regard to travel speeds, lane widths, vehicle mix, adjacent land uses, traffic volumes and other critical factors. This approach can lead to inadequate provision on major roads (e.g. a four foot bike lane or four foot sidewalk on a six lane high-speed urban arterial) and the over-design of local and neighborhood streets (e.g. striping bike lanes on low volume residential roads), and leaves little room for engineering judgment.

After adopting the policy that cyclists and pedestrians (including people with disabilities) will be fully integrated into the transportation system, state and local governments should encourage engineering judgment in the application of the range of available treatments.

For example:

- Collector and arterial streets shall typically have a minimum of a four foot wide striped bicycle lane, though wider lanes are often necessary in locations with parking, curb and gutter, heavier and/or faster traffic.
- Collector and arterial streets shall typically have a minimum of a five foot sidewalk on both sides of the street, though wider sidewalks and landscaped buffers are necessary in locations with higher pedestrian or traffic volumes, and/or higher vehicle speeds. At intersections, sidewalks may need to be wider to accommodate accessible curb ramps.
- Rural arterials shall typically have a minimum of a four foot paved shoulder, though wider shoulders (or marked bike lanes) and accessible sidewalks and crosswalks are necessary within rural communities and where traffic volumes and speeds increase.

This approach also allows the highway engineer to achieve the performance goal of providing safe, convenient, and comfortable travel for cyclists and pedestrians by other means. For example, if it would be inappropriate to add width to an existing roadway to stripe a bike lane or widen a sidewalk, traffic calming measures can be employed to reduce motor vehicle speeds to levels more compatible with bicycling and walking.

Actions

The United States Department of Transportation encourages states, local governments, professional associations, other government agencies and community organizations to adopt this Policy Statement as an indication of their commitment to accommodating cyclists and pedestrians as an integral element of the transportation system. By so doing, the organization or agency should explicitly adopt one, all, or a combination of the various approaches described above and should be committed to taking some or all of the actions listed below as appropriate for their situation.

- a) Define the exceptional circumstances in which facilities for cyclists and pedestrians will not be required in all transportation projects.
- b) Adopt new manuals, or amend existing manuals, covering the geometric design of streets, the development of roadside safety facilities and design of bridges and their approaches so that they comprehensively address the development of bicycle and pedestrian facilities as an integral element of the design of all new and reconstructed roadways.
- c) Adopt stand-alone bicycle and pedestrian facility design manuals as an interim step towards the adoption of new typical sections or manuals covering the design of streets and highways.
- d) Initiate an intensive re-tooling and re-education of transportation planners and engineers to make them conversant with the new information required to accommodate cyclists and pedestrians. Training should be made available for, if not required of, agency traffic engineers and consultants who perform work in this field.

Conclusion

There is no question that conditions for bicycling and walking need to be improved in every community in the United States. It is no longer acceptable that 6,000 cyclists and pedestrians are killed in traffic every year, that people with disabilities cannot travel without encountering barriers and that two desirable and efficient modes of travel have been made difficult and uncomfortable.

Every transportation agency has the responsibility and the opportunity to make a difference to the bicycle-friendliness and walkability of our communities. The design information to accommodate cyclists and pedestrians is available, as is the funding. The United States Department of Transportation is committed to doing all it can to improve conditions for bicycling and walking and to make them safer ways to travel.

Additional Information and Resources

General Design Resources

A Policy on Geometric Design of Highways and Streets, 5th Edition 2004 (The Green Book). American Association of State Highway and Transportation Officials (AASHTO), P.O. Box 96716, Washington, DC, 20090-6716, Phone: (888) 227-4860

http://www.knovel.com/web/portal/browse/display?_EXT_KNOVEL_DISPLAY_bookid=2528

Highway Capacity Manual, Special Report 209, 2000. Transportation Research Board, Box 289, Washington, DC 20055, Phone: (202) 334-3214. Next edition: 2010.

Manual on Uniform Traffic Control Devices, 2009. Federal Highway Administration (FHWA), Superintendent of Documents. P.O. Box 371954, Pittsburgh, PA 15250-7954. Next edition: 2011.

California Manual on Uniform Traffic Control Devices 2011 Draft.

<http://www.dot.ca.gov/hq/traffops/signtech/mutcdsupp/> Next edition: 2012.

Flexibility in Highway Design, 2004. FHWA. HEP 30, 400 Seventh Street SW, Washington, DC 20590. <http://www.fhwa.dot.gov/environment/flex/index.htm>

Bikeway Facility Design Resources

Guide for the Development of Bicycle Facilities, 2009, American Association of State Highway and Transportation Officials (AASHTO), P.O. Box 96716, Washington, DC, 20090-6716, Phone: (888) 227-4860.

Implementing Bicycle Improvements at the Local Level, 1998, FHWA, HSR 20, 6300 Georgetown Pike, McLean, VA.

Selecting Roadway Design Treatments to Accommodate Bicyclists, 1993. FHWA, R&T Report Center, 9701 Philadelphia Ct., Unit Q; Lanham, MD 20706. (301) 577-1421 (fax only)

North Carolina Bicycle Facilities Planning and Design Guidelines, 1994. North Carolina DOT, P.O. Box 25201, Raleigh, NC 27611. (919) 733-2804.

Bicycle Facility Planning, 1995. Pinsof & Musser. American Planning Association, Planning Advisory Service Report # 459. American Planning Association, 122 S. Michigan Ave, Suite 1600; Chicago, IL 60603.

Florida Bicycle Facilities Planning and Design Manual, 1994. Florida DOT, Pedestrian and Bicycle Safety Office, 605 Suwannee Street, Tallahassee, FL 32399.

Evaluation of Shared-use Facilities for Bicycles and Motor Vehicles, 1996. Florida DOT, Pedestrian and Bicycle Safety Office, 605 Suwannee Street, Tallahassee, FL 32399.

Bicycle and Pedestrian Design Resources

Oregon Bicycle and Pedestrian Plan, 1995. Oregon Department of Transportation, Bicycle and Pedestrian Program, Room 210, Transportation Building, Salem, OR 97310, Phone: (503) 986-3555

Improving Conditions for Bicyclists and Pedestrians, A Best Practices Report, 1998. FHWA, HEP 10, 400 Seventh Street SW, Washington, DC 20590.

Traffic Calming Design Resources

Traffic Calming: State of the Practice. 1999. Institute of Transportation Engineers, 525 School Street, SW, Suite 410; Washington, DC 20024.

Florida Department of Transportation's Roundabout Guide. 1996. Florida Department of Transportation, 605 Suwannee St., MS-82, Tallahassee, FL 32399-0450.

National Bicycling and Walking Study. Ten Year Status Report. 2004. Federal Highway Administration (FHWA).

Traffic Calming. 1995. American Planning Association, 122 South Michigan Avenue, Chicago, IL 60603

Traditional Neighborhood Development Street Design Guidelines, Proposed Recommended Practice. 1997. Institute of Transportation Engineers, 525 School Street, SW, Suite 410; Washington, DC 20024.

Making Streets that Work, City of Seattle, 600 Fourth Ave., 12th Floor, Seattle, WA 98104-1873, Phone: (206) 684-4000, Fax: (206) 684-5360.

Traffic Control Manual for In-Street Work, 1994. Seattle Engineering Department, City of Seattle, 600 4th Avenue, Seattle, WA 98104-6967, Phone: (206) 684-5108.